JOURNAL OF ELECTROANALYTICAL CHEMISTRY

Dedicated to Professor R.P. Buck on the occasion of his 65th birthday

Vol. 378 No. 1

CONTENTS

NOVEMBER 21 1994

Dedication 1

Regular papers

Power-law exponents and hidden bulk relation in the impedance spectroscopy of solids
J.R. Macdonald (Chapel Hill, NC, USA) 17

The Richtmyer modification of the fully implicit finite difference algorithm for simulations of electrochemical problems
J. Mocak (Bratislava, Slovakia) and S.W. Feldberg (Upton, NY, USA) 31

Model dependence and reliability of the electrochemical quantities derived from the measured impedance spectra of polymer modified electrodes
G. Inzelt and G. Láng (Budapest, Hungary) 39

Critical issues associated with interpretation of impedance spectra
M.E. Orazem, P. Agarwal (Gainesville, FL, USA) and L.H. Garcia-Rubio (Tampa, FL, USA) 51

Impedance characterization of thin electrochemically formed palladium oxide films
A.J. Zhang, V.I. Birss and P. Vanýsek (Calgary, Alberta, Canada) 63

Impedance measurements on single crystals of the oxygen ion conductor BICUVOX
P. Kurek, J.R. Dygas and M.W. Breiter (Wien, Austria) 77

Lithium insertion in WO_3 studied by simultaneous measurements of impedance, electrogravimetric and electro-optical transfer functions
C. Gabrielli, M. Keddam, H. Perrot and R. Torresi (Paris, France) 85

A numerical ac-impedance model used for the analysis of a polyvinylferrocene coated electrode
E. Deiss, M. Sullivan and O. Haas (Villigen, Switzerland) 93

Electroreflectance study of redox reactions of methylene blue incorporated into polypyrrole coated on a pyrolytic graphite electrode
S.-I. Imabayashi, T. Nakamura, T. Sagara and K. Niki (Yokohama, Japan) 103

A new method for determining transport numbers of charged membranes from convective diffusion experiments
K. Kontturi (Espoo, Finland), S. Mafé, J.A. Manzanares, J. Pellicer (Burjassot, Spain) and M. Vuoristo (Espoo, Finland) 111

Discreteness-of-charge effects at an electrode covered with a self-assembled monolayer containing a simple redox couple
W.R. Fawcett (Davis, CA, USA) 117

Crystal face specificity of fluoride adsorption on Ag electrodes: the (311) face
F. Veggini, S. Trasatti (Milan, Italy) and L. Doubova (Camin (Pd), Italy) 125

Adsorption characteristics by a radiochemical method on smooth electrode surfaces (*Review*)
Y.-E. Sung, A. Thomas, M. Gamboa-Aldeco, K. Franaszczuk and A. Wieckowski (Urbana, IL, USA) 131

Investigation of the electrodeposition and behaviour of Re layers by coupled radiochemical and electrochemical methods
G. Horányi and I. Bakos (Hungary) 143

Water and electrolyte structure at Ag electrodes in nonaqueous butanol solutions using surface-enhanced Raman scattering
J.E. Pemberton and S.L. Joa (Tucson, AZ, USA) 149

The role of water and temperature in the electrochemical behavior of solid iron(III) hexacyanoferrate(II/III)
P. Piela, P.K. Wrona and Z. Galus (Warsaw, Poland) 159

A hollow fibre supported liquid membrane system for metal speciation and preconcentration: calculation of the response time
O.C. Keller, S. Poitry and J. Buffle (Geneva, Switzerland) 165

Organic membranes for miniaturized electrochemical sensors: fabrication of a combined pO_2, pCO_2 and pH sensor
Ph. Arquint, M. Koudelka-Hep, N.F. De Rooij (Neuchâtel, Switzerland), H. Bühler and W.E. Morf (Bonaduz, Switzerland) 177

The design of durable Na^+-selective CHEMFETs based on polysiloxane membranes
J.A.J. Brunink, R.J.W. Lugtenberg, Z. Brzøzka, J.F.J. Engbersen and D.N. Reinhoudt (Enschede, Netherlands) 185

Chalcogenide glass chemical sensors: relationship between ionic response, surface ion exchange and bulk membrane transport
Yu.G. Vlasov (Saint Petersburg, Russian Federation) and E.A. Bychkov (Karlsruhe, Germany) 201

Non-stoichiometric dissolution of lanthanum fluoride (LaF_3) and its relevance to a process of ion-selective charge separation at the solid|solution interface
Y. Tani, Y. Umezawa (Tokyo, Japan), K. Chikama, A. Hemmi (Sapporo, Japan) and M. Soma (Ibaragi, Japan) 205

Theory of transient potential response of ion-selective electrodes based on polarizable liquid|liquid Interface
M. Senda (Fukui, Japan) 215

Author index 221

Subject index 223